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AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL BRANCH

PLANT PEST SURVEY SECTION

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Branch serves as a clearing house and does not assume responsibility for accuracy of the material.

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COOPERATIVE ECONOMIC INSECT REPORT

Highlights of Insect Conditions

SPOTTED ALFALFA APHID increasing rapidly in northern Oklahoma. New county records from Wisconsin. (p. 1107).

BEET LEAFHOPPER report from California, Nevada and Texas. (p. 1109).

Fall abundance of eggs of potato-infesting APHIDS in northeastern Maine. (p. 1108).

A FIR APHID reported from Oregon for first time. (p. 1110).

Status of MEDITERRANEAN FRUIT FLY eradication and regulatory program in Florida. (p. 1113).

SUMMARY OF INSECT CONDITIONS - 1956 - South Carolina (p. 1114), Mississippi (p. 1119).

Distribution of RANGE GRASSHOPPERS. (p. 1122).

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Reports in this issue are for the week ending December 7 unless otherwise designated.

WEATHER OF THE WEEK ENDING DECEMBER 10, 1956

Sharply contrasting characteristics of two air masses exerted pronounced influences on the week's weather. The extremely cold Alaskan air penetrating into the North Central States last period extended its effects to most of the Nation by the weekend. As this air mass made relatively slow progress against the unseasonably warm one to the south and southeast, a portion of the cold air was forced southward west of the Divide. Temperatures averaged below normal in the North Central and West, while in the South Central and East the picture was reversed. Departures were greatest in central Montana where weekly averages were 18° or more below tne normal, while in the East the adjacent portions of Ohio, Kentucky, Tennessee, North Carolina, Virginia and West Virginia observed averages above normal by 15° or more. For both areas these departures were approximately 11° in excess of the seasonal standard deviation. Subzero minima were reported throughout the northern Plains, and northern and central Rocky Mountain states. A -26° at Ralph was the lowest temperature this season in South Dakota. Ahead of the frontal boundary daily maxima were equalled or exceeded at many stations. At Indianapolis, Indiana, an 84 year record of 69° for the month was equalled.

Precipitation in the form of rain, sleet, or snow was associated with the frontal activity between the two air masses. Heavy rains at lower elevations and snow in the mountains accompanied two pronounced storm centers of the Northwest, and a less well defined cyclonic center in southeastern Canada brought snows to the Great Lakes and New England areas. Weekly totals were moderate to heavy along the west coast from central California northward and in a band, about 300 miles wide, extending from Oklahoma to the extreme Northeast.

Glaze and sleet storms were reported in many of the Great Plain States. The most disastrous of these struck Oklahoma Friday night and Saturday leaving a 1 to 4 inch deposit on the ground and causing hundreds of auto accidents which resulted in 7 deaths and 60 injuries. Also, one person froze to death. Extensive damage was reported to utility lines, trees, and shrubs, and south of Oklahoma City an airport hanger collapsed under the weight of the ice, damaging 15 small planes.

Snow cover at lower elevations is somewhat limited. A band about 200 miles wide extending from central Missouri into the New England States is the most significant, but some cover also exists along the extreme border and spotty conditions are reported in the Northwest. The greatest depth for lower elevations is 19 inches at Houghton, Michigan. Higher levels in the West are mostly covered with Mount Baker Lodge, Washington reporting 45 inches; Soda Springs, California, 20 inches; Crater Lake, Oregon, 28 inches; and Bright Angel, Arizona, 12 inches. (Summary Supplied by U.S. Weather Bureau).

CEREAL AND FORAGE INSECTS

WINTER GRAIN MITE (*Penthaleus major*) - TEXAS - Light to heavy on oats in Hill, Ellis, Johnson and Kaufman Counties. (Hawkins, Davis). Heavy infestation on about 25 acres of oats in Hunt County. (Hawkins, Nov. 28).

BROWN WHEAT MITE (*Petrobia latens*) - UTAH - Rarely in evidence due to dry soil conditions and little growth of winter wheat. (Knowlton).

SUGARCANE BORER (*Diatraea saccharalis*) - FLORIDA - Larvae average one per corn stalk of 30 inspected at Cutler, Dade County, Nov. 20; pupae averaging one per stalk of two inspected at Goulds, Nov. 21; averaging one per stalk on 10 inspected at Homestead, Dade County, Nov. 20. (Swanson, Daigle).

PEA APHID (*Macrosiphum pisi*) - WISCONSIN - Fall weather favorable for exceptionally large build up on alfalfa and clover. (Smith).

SWEETCLOVER APHID (*Myzocallidium riehmi*) - TEXAS - Medium infestation on sweetclover in Burleson County. (Randolph). WISCONSIN - In addition to Crawford County, specimens have been identified from Vernon and Grant Counties. (Smith).

SPOTTED ALFALFA APHID - UTAH - Still present in Kane County wherever alfalfa is still green. (Knowlton, Rose). TEXAS - Medium to heavy on alfalfa in Burleson and Brazos Counties. (Randolph). Light to medium on alfalfa in Delta County. (Hawkins). Light infestations on alfalfa in Navarro and Kaufman Counties (Randolph, Turney, Nov. 28). OKLAHOMA - Infestation building up rapidly in most northern counties, but heavy populations not in all fields. Infestations of 7000- 10,000 per square foot of alfalfa crown are common in northern part of Washington County, with slightly lower counts in Pawnee and Noble Counties. Newly-planted alfalfa in Washington County showing severe damage due to aphids and dry weather, with one field averaging 44 aphids per linear foot of row. (Coppock). WISCONSIN - Collections from eleven counties in addition to Rock County showed infestations: Buffalo, Trempealeau, La Crosse, Vernon, Crawford, Grant, Lafayette, Green, Dane, Iowa, Sauk. (Smith).

A SCARABAEID (*Aphodius* sp.) - NEVADA - Causing severe damage to native pastures in Ruby Valley, Elko County. About five acres destroyed. (Menke, Lauderdale, Dec. 1).

LEAFHOPPERS - TEXAS - Light to medium on oats in Kaufman County. (Hawkins).

TRUCK CROP INSECTS

AN APHID (Micromyzus formosanus) - CALIFORNIA - Heavy infestation on shallots at Berkeley, Alameda County. Previously submitted to Sacramento from Contra Costa, Merced, Orange, San Bernardino, Santa Clara and Tuolumne Counties. (Cal. Coop. Rept., Nov. 30).

Fall (1956) Abundance of Aphid Eggs on Overwintering Hosts of Four Species of Potato-Infesting Aphids in Northeastern Maine.

A survey was conducted November 5 to 9, 1956, in northeastern Maine, to determine the abundance of fully distended aphid eggs on the more important primary hosts of three species of potato-infesting aphids, including buckthorn, green peach, and potato aphids, Aphis abbreviata, Myzus persicae, and Macrosiphum solanifolii, respectively. Similar data for the foxglove aphid, Myzus solani were obtained on November 27 and 28. Eggs of the buckthorn aphid found on buckthorn at all 8 sampling stations, were nearly twice the 10-year fall average and about 3 1/2 times that at the same stations a year ago. Early season populations of stem mothers in 1957 could be larger than usual. Aphid eggs on Canada plum, a host of the green peach aphid, were found in 38 percent of the 26 thickets sampled. While egg-infested thickets were less common than usual, and the egg population only 27 percent of the 10-year fall average, the overall egg abundance was more than 1 1/3 times that of a year ago. A greater than usual proportion of the eggs present may have been deposited by the green peach aphid since numbers were about 10 times as large as a year ago. Although still rather low, fall abundance of the aphid on this host increased sharply during the past two years. With favoring conditions, spring 1957 abundance of the aphid on this plant should be greater than during either of the past two years. Aphid eggs on swamp rose, most important primary host of the potato aphid, were found at all 12 sampling stations. Abundance was but 78 percent of that of a year ago and only 70 percent of the 10-year fall average. Periodic counts showed that except at one station, fall populations on this rose were largely potato aphid. Because considerable warm weather occurred after the fall count, egg populations starting the winter were likely larger than on date of survey. Early-season populations of the potato aphid on roses in 1957 could be above normal. Aphid eggs on hawkweed, important primary host of the foxglove aphid, are very scarce, but slightly more abundant this fall than during the fall of 1955. (Shands, Simpson and Wave).

STRAWBERRY SPIDER MITE (Tetranychus atlanticus) - NORTH CAROLINA - Numerous in a Pender County strawberry field. (Jones, Farrier).

TOMATO RUSSET MITE (Vasates lycopersici) - TEXAS - Light to medium infestations on tomatoes in Dimmit County. (Richardson, Nov. 28).

MELON FLY (Dacus cucurbitae) - CALIFORNIA - Servicing of 9500 traps in Los Angeles area failed to show any specimens. (Cal. Coop. Rept., Nov. 30).

BEET LEAFHOPPER (*Circulifer tenellus*) - CALIFORNIA - Regular fall spraying of perennial and annual hosts was completed in San Joaquin Valley. A total of 10,101 acres involved. (Cal. Coop. Rept., Nov. 30). NEVADA - Populations per foot of row of seedling sugar beets for seed production in Clark County were as follows: In Virgin Valley Oct. 5-0.30 and Oct. 15-0.60; in Moapa Valley, Oct. 5-0.40 and Oct. 15-0.40. Curly top incidence ranged from 5-10 diseased beets per 100 foot of row on Nov. 12. (Dorst, Dec. 1).

Summary of the Beet Leafhopper Infestations in Areas of Texas - 1956

Average Population of Nymph and Adult Beet Leafhoppers on Russian-thistle in 100 Sweeps

County	June 26-29	July 31-Aug. 3	Sept. 4-7	Oct. 2-5
Concho	5	10	14	4
Tom Green	19	10	17	9
Sterling	74	6	33	12
Howard	94	148	49	56
Dawson	78	17	26	23
Lubbock	52	15	44	59
Crosby	38	29	47	36
Hale	20	65	133	81
Castro	71	32	52	38
Parmer	33	7	16	6
Lamb	34	24	13	25
Hockley	165	48	12	19
Terry	61	8	63	121
Gaines	32	-	72	210
Andrews	35	80	16	220
Martin	6	4	0	0
Ector	-	38	10	14
Midland	278	171	120	306
Upton	0	8	6	22
Crane	46	20	32	74
Crockett	16	0	0	-
Pecos	26	9	10	70
Reeves	32	12	5	4
Floyd	-	2	4	-
Bailey	19	6	44	23
Jeff Davis	57			
Brewster	35			
Terrell	170			
Kimble		2	0	

(Richardson).

COTTON INSECTS

PINK BOLLWORM (*Pectinophora gossypiella*) - CALIFORNIA - In the Imperial Valley, 2238 bushels of gin trash were collected from one machine at El Centro and one at Calipatria . No larvae found. From 11 fields totaling 1860 acres, 2058 unopened bolls were examined with no larvae found in the Calexico, Heber and El Centro districts. (Cal. Coop. Rept., Nov. 30).

A LEAF ROLLER (Platynota stultana) - CALIFORNIA - Occasional larvae taken boring into bolls of cotton. One field had considerable damage to lint, seeds and squares with 3-4 larvae in some bolls with 35 bolls out of 150 infested. A pteriphorid and tortricid larvae also present. (Cal. Coop. Rept., Nov. 30).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

APHIDS - OREGON - Two new species, Cinara setulosa and C. sonata collected on Shasta red fir in Mt. Ashland area, Jackson County, September, 1954. (Gentner). Cinara chinookiana was collected for first time in Oregon on Alpine fir in Crater Lake National Forest, Jackson County, October 2. (Gentner).

A SCARABAEID (Cyclocephala sp.) - NEVADA - Damaged elm trees in Las Vegas by girdling two inches below soil line. (Lauderdale, Dec. 1).

TWO-SPOTTED SPIDER MITE (Tetranychus telarius) - OREGON - Heavy infestation on chrysanthemums in a Salem greenhouse, Dec. 3. (Bock).

A WAX SCALE (Ceroplastes sp.) - NORTH CAROLINA - Heavy infestation locally onornamental hemlock in Richmond County. (Wray).

PINE WEBWORM (Tetralopha robustella) - SOUTH CAROLINA - Infesting tips of pine trees at Clemson. (Nettles, Dec. 3).

BLACK TURPENTINE BEETLE (Dendroctonus terebrans) - MISSISSIPPI Recently found in a few trees in a 1000-acre pine forest in Forrest County. (Broome).

SAN JOSE SCALE (Aspidiotus perniciosus) FLORIDA - All stages averaging many per stem of 150 flowering quinces at Glen St. Mary, Baker County, Nov. 27. (Holder).

INSECTS AFFECTING MAN AND ANIMALS

SHEEP SCAB MITE (Psoroptes equi ovis) - VIRGINIA - In three flocks of sheep totaling 200 in Clarke County. (Gerkin). In November, 359 of 609 head of sheep inspected were infested and 287 were dipped. Thirty-seven markets were disinfected. (Va. Livestock Health Bul., Nov.).

LARGE CHICKEN LOUSE (Goniodes gigas) - TEXAS - A heavy population reported in one flock of chickens in Williamson County. (Huckabee).

CATTLE LICE - UTAH - Building up in Tooele, Box Elder, Weber, Utah and Davis Counties. A number of herds have been treated several localities. (Knowlton).

A RABBIT FUR MITE (Cheyletiella parasitivorax) - NORTH CAROLINA - Taken from heavy dandruff of six weeks old cocker pup in Guilford County. (Cooperrider, Farrier).

STORED PRODUCTS INSECTS

KHAPRA BEETLE (Trogoderma granarium) - SOUTH DAKOTA - One milling company and a seed company surveyed at Sioux Falls showed no infestation. (Hantsbarger).

INDIAN-MEAL MOTH (Plodia interpunctella) - SOUTH DAKOTA - Heavy infestation in stored sorghum seed at a seed company in Sioux Falls, Minnehaha County. Other infestations reported from Lake County on shelled corn. (Hantsbarger).

STORED GRAIN INSECTS - TEXAS - A total of 165 bins examined in ten counties in vicinity of Houston, Nov. 5-16 showed the following number of bins infested by pests: Mites, 1 bin; psocids, 27 bins; rice weevil, 4; confused flour beetle, 4; Angoumois grain moth, 6; saw-toothed grain beetle, 6; rice moth, 4; Indian-meal moth, 37; and none found in 91 bins. (Gaines, Nov. 28). OKLAHOMA - Fourteen steel bins of farm stored wheat, barley and oats in Washington County showed following infestation: lesser grain borer in 5 bins with infestation range of 5-210 per quart sample; saw-toothed grain beetle in 7 bins with range of 2-160 per sample; red flour beetle in 5 bins with 4-180 per sample; rice weevil, 81 per sample was found in one bin and flat grain beetle, 20 per sample in one bin. Damage was very severe in two bins. (Coppock).

MISCELLANEOUS INSECTS

BROWN-BANDED ROACH (Supella supellectilium) - UTAH - Infesting additional homes at Provo, Utah County. (Knowlton). NORTH CAROLINA - Heavy infestation in home in Wake County. (Wray).

CLUSTER FLY (Pollenia rudis) - VIRGINIA - In large numbers in some Blacksburg homes and causing concern. (Amos).

SCORPIONFLIES (Boreus spp.) - UTAH - Specimens of Boreus prob. unicolor taken from moss in Logan Canyon Oct. 28. Det. S. Parfin. Others taken in Blacksmith Fork Canyon and in Logan Canyon during November were identified as B. coloradensis. Det. G. W. Byers. First record for family and genus in State. (Knowlton).

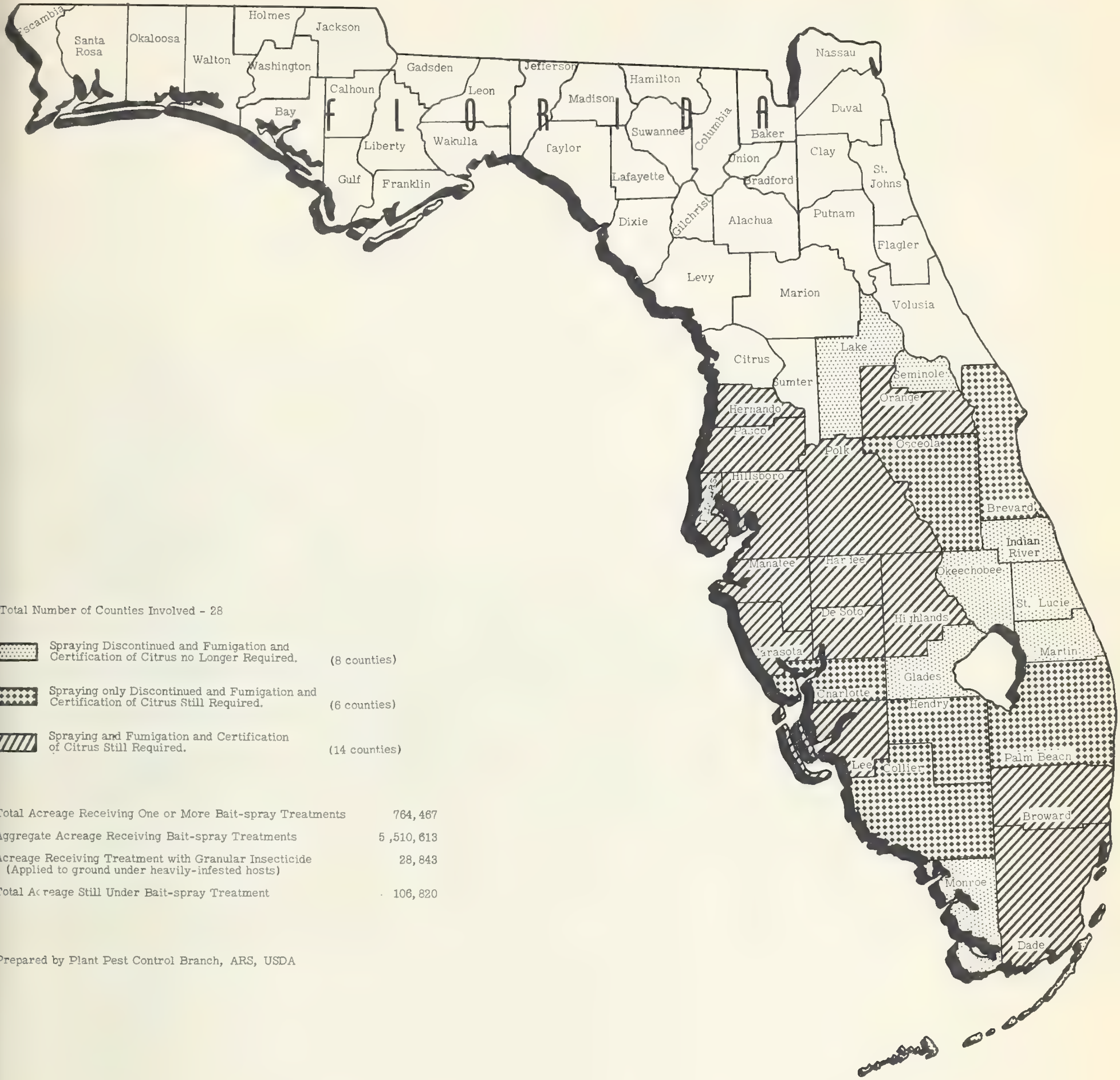
CORRECTIONS

CEIR 6(44):1033 under Fruit Insects should read FALL WEBWORM (Hyphantria cunea).

LIGHT TRAP COLLECTIONS

	Pseud. unipun.	Agrotis ypsilon	Prod. ornith.	Perid. marg.	Feltia subt.	Heliothis zea	Laphyg. frugip.
TEXAS							
College Station 11/28-12/7	84	2	4	1	5	2	18
Weslaco 11/16-30	70	30	22	23	65	8	13
Winter Haven 11/16-30	47	10	2	19	17		
SOUTH CAROLINA(Counties)							
Florence 11/24-30	2				1	1	1
Charleston 11/24-30	3	8		1	9		
FLORIDA							
Belle Glade 11/22, 28-30	12	6	2		1	3	
Ft. Myers 11/27			1		2		
Homestead 11/27-12/3		4			8		
Monticello 12/4	1	1					
ALABAMA(County)							
Baldwin 12/4-5	14						
GEORGIA (County)							
Spalding 11/30-12/6	3			2	3		1

STATUS OF
MEDITERRANEAN FRUIT FLY
ERADICATION AND REGULATORY PROGRAM DECEMBER 1, 1956



Total Number of Counties Involved - 28

░	Spraying Discontinued and Fumigation and Certification of Citrus no Longer Required.	(8 counties)
▦	Spraying only Discontinued and Fumigation and Certification of Citrus Still Required.	(6 counties)
▨	Spraying and Fumigation and Certification of Citrus Still Required.	(14 counties)

Total Acreage Receiving One or More Bait-spray Treatments	764, 467
Aggregate Acreage Receiving Bait-spray Treatments	5 ,510, 613
Acreage Receiving Treatment with Granular Insecticide (Applied to ground under heavily-infested hosts)	28, 843
Total Acreage Still Under Bait-spray Treatment	106, 820

Prepared by Plant Pest Control Branch, ARS, USDA

SUMMARY OF INSECT CONDITIONS - 1956

SOUTH CAROLINA

Reported by W. C. Nettles *

Highlights: SPOTTED ALFALFA APHID first noted and is widespread. LESPEDEZA WEBWORM damage heavy downstate. LESSER CORNSTALK BORER damage heavy in eastern area to soybeans, grain sorghum, and cowpeas. CUTWORMS damaged forage crops. CORN EARWORM number one pest of cereal and forage crops. Next to the BOLL WEEVIL it is the most serious pest of the State. PEACH TREE BORER is the most serious insect of peaches. CODLING MOTH and APHIDS were much less numerous on apples. There appears to be some build-up of SCALE , especially FORBES. The PEPPER MAGGOT reported for the first time on pimiento pepper. Some fields showed 50 percent of the peppers injured. SOUTHERN POTATO WIREWORM caused some serious losses to potatoes. STINK BUGS cause serious damage to tomatoes and watermelons. CABBAGE LOOPER caused unusual injury to tomatoes. TOBACCO BUDWORM most important pest** CABBAGE LOOPER caused grower concern to tobacco. TOBACCO FLEA BEETLE and TOBACCO HORNWORM less damaging than during previous several years. TOBACCO WIREWORM losses reduced. GREEN PEACH APHID and CUTWORMS were below normal in abundance. For the Coastal section 1956 might be termed a moderate to light BOLL WEEVIL year. In the Piedmont area BOLL WEEVIL infestations were moderate to heavy. In the Savannah River Valley populations were about the same as last year. Among the pests of forest, ornamental, and shade tree more numerous than usual were FALL WEBWORM, OAK GALLS, CARPENTERWORM, PINE SAWYER, BAGWORM on arborvitae, SPIDER MITES, CAMELLIA and WAX SCALES. Twenty to thirty percent of hides damaged by CATTLE GRUBS December through February. HORN FLY, HORSE and DEER FLIES, MOSQUITOES, and SCREW-WORMS more abundant than usual. Resistance troubles noted with DOG FLEAS and GERMAN ROACH. BEDBUGS and TERMITES show increase. GIANT HORNET continues to spread. STORED PRODUCT INSECTS were less numerous than in years past, but much damage still encountered.

**on tobacco.

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*With cooperation of the following: Norman Allen, J.A. Berly, W.F. Chamberlin, J.H. Cochran, W.J. Goodwin, V.M. Kirk, Frances McAlister, J.K. Reed, T.E. Skelton, L.M. Sparks, C.H. Thomas, R.L. Walker, W.J. Reid, F.P. Cuthbert, Jr. and Augustine Day.

Cereal and Forage Insects: THREE-CORNERED ALFALFA HOPPER (Spissistilus festinus) was not as abundant as in 1955. ARMYWORMS occurred in Piedmont area in a small endemic population. Some damage by WHITE GRUBS can be expected in fields planted to legumes during the summer. In several locations in the Coastal Plain area white grubs were damaging to pastures during the fall. SPOTTED ALFALFA APHID Found in State for first time. Heavier populations occurring in Piedmont area but damage has been negligible. CRIMSON CLOVER WEEVILS - Damage has been more than generally suspected. Even small populations of adults have reduced the seed yield to below 50 percent of the potential. LESPEDEZA WEBWORM (Tetralopha scortealis) damage was generally slight, less than in 1955. Some very serious damage has occurred to sericea lespedeza about mid-way downstate near the North Carolina line. Some heavy localized infestations of CUTWORMS occurred early in the season in the Savannah River Valley. CORN EARWORM (Heliothis zea) was the number one pest in this crop category in the Pee Dee area. Losses were estimated at 1-2 million dollars on corn alone. No way of estimating the loss in grain sorghum or the legumes, but it was considerable. Soybean pods were seriously damaged, with many fields ruined. SORGHUM MIDGE (Contarinia sorghicola), of special interest in the Pee Dee area, caused considerable loss of yield of sorghum. Most of the "lack of seed-set" was caused by this midge, rather than poor pollination. The midge was less destructive in the Piedmont area than during 1955. LESSER CORNSTALK BORER (Elasmopalpus lignosellus) caused rather serious losses to stands of soybeans. In several instances fields as large as 75 acres were virtually ruined. CORN SAP BEETLES seriously damaged sweet corn, especially in the Piedmont. VELVETBEAN CATERPILLAR less than usual damage to soybeans during this season. Moth catches as indicated by trap lights were somewhat later than average. STRIPED BLISTER BEETLES caused serious localized damage to soybeans. SOD WEBWORMS were serious on Bermuda grass, especially when highly fertilized.

Fruit Insects: Control of insects on peaches was generally effective in South Carolina in 1956. PLUM CURCULIO (Conotrachelus nenuphar) was practically absent in the State this year, due to insecticide control and severe freeze in March 1955. ORIENTAL FRUIT MOTH (Grapholitha molesta) was not a serious pest on peaches this year. Probably the most serious pest on peaches in South Carolina at the present time is the PEACH TREE BORER (Sanninoidea exitiosa). Trunk sprays, when properly applied, have been giving excellent control of this insect in the Piedmont but not as good control in the Ridge area as would be expected. CODLING MOTH (Carpocapsa pomonella) was less destructive than usual to apple which reflects the effectiveness of insecticides and the virtual loss of a crop from a freeze during 1955. Severe damage from SPIDER MITES was noted in several orchards. APHIDS are much less numerous since use of organic phosphates was started. SCALE INSECTS, appeared to be more numerous because of failure to spray with phosphates during the summer of 1955. RED-HUMPED CATERPILLAR (Schizura concinna) caused some leaf damage on apple, usually not noted in State. WEBWORMS were numerous on species such as persimmon, pecan, and others throughout the State. This was a year of unusual infestation.

PECAN WEEVIL (Curculio caryae) definitely fewer than in past years. CARPENTERWORM (Prionoxystus robiniae) damage to pecan trees was widespread.

Truck Crop Insects: PEPPER MAGGOT (Zonosemata electa) was reported for first time damaging pimiento pepper in Piedmont. In some fields 50 percent of the peppers were injured. STINK BUGS caused serious injury to tomatoes and were numerous on main crop of watermelons. SEED-CORN MAGGOT (Hylemya cilicrura) was not abundant, but there is a growing recognition of its damage on all crops. SOUTHERN POTATO WIREWORM caused extensive damage to the commercial potato crop in Charleston County in the spring. Of 1,035 lots (estimated to be 75 percent of the spring crop) inspected by the Federal-State Market Inspection Service, 35.6 percent showed 3 to 6 percent wireworm damage, and 30 percent showed damage in excess of 6 percent. The current tolerance allowed for all defects in the case of U.S. Grade 1 is 6 percent. WIREWORM damage in excess of 6 percent occurred in one or more lots from at least 44 farms in spite of the use of a chlorinated hydrocarbon soil insecticide in a majority of the fields. CABBAGE LOOPER was abundant and very difficult to control on late-spring cabbage in Charleston County and also did considerable feeding on tomatoes in some fields during June. The looper was moderately abundant on young collards and cabbage during fall. Extensive control measures were required to check the infestations in some plantings. MEXICAN BEAN BEETLE (Epilachna varivestis) infestations were normal during the spring season and losses negligible. Unusually high populations passed the summer on soybean and cowpea cover crops and unprotected fall snap beans plantings suffered considerable damage, particularly in the Summerville area. CABBAGE APHID (Brevicorynae brassicae) infestations were light to moderate during February in most commercial cabbage plantings in Charleston area. IMPORTED CABBAGEWORM (Pieris rapae) infestations were light to moderate on spring and fall cabbage plantings in Charleston area. Control measures were effective. PICKLEWORM (Diaphania nitidalis) necessitated general use of insecticides on fall cucurbit plantings. Measures were effective and little or no loss occurred in Charleston area. TOMATO FRUITWORM (Heliothis zea), in spite of the general use of insecticides, caused some injury to tomatoes, snap beans, cabbage and sweet corn in Charleston area GREEN PEACH APHID (Myzus persicae) was generally light on spinach, but control measures were required in a few cases in Charleston area. LESSER CORNSTALK BORER was a serious pest of cowpeas and injured young snapbeans during the fall in a few fields. Damage less extensive than during several preceding years, in Charleston area.

Tobacco Insects: TOBACCO BUDWORM (Heliothis virescens) was the most important insect pest of tobacco during the season despite the fact that it was below normal in abundance in 1955. In a large number of fields the infestation consisted of tobacco budworm and the CORN EARWORM (Heliothis zea). Both species appeared in large numbers in the early season and continued to be a major pest throughout the growing period. CABBAGE LOOPER appeared on tobacco throughout the belt and caused more grower concern than during any time since it first appeared in numbers in 1954. TOBACCO FLEA BEETLE (Epitrix hirtipennis) caused considerable damage to newly-set plants throughout most of the tobacco belt, and some damage later in the season, but they were of less importance than during any one of the past three years. TOBACCO HORNWORM (Protoparce sexta) was less troublesome than during the past several years, probably due to the widespread use of mor effective insecticides. TOBACCO WIREWORMS (Conoderus vespertinus) caused less damage due to widespread use of insecticides. POTATO TUBERWORM (Gnorimoschema operculella) occurred in scattered infestations where potatoes are grown near tobacco fields. VEGETABLE WEEVIL (Listroderes costirostris obliquus) occurred in isolated outbreaks in plant beds, but of no importance on field plants. CUTWORMS were below normal in abundance.

Cotton Insects: (Pee Dee area) BOLL WEEVIL (Anthonomus grandis) infestations appeared to be more localized than normal in the coastal section. For the coastal section as a whole 1956 might be termed a moderately light boll weevil year. In some areas weather conditions during the growing season afforded considerable climatic control. In four experimentalfields at Florence gains in yields in plots treated with the standard recommended insecticides over the untreated check plots averaged 437 pounds of seed cotton per acre, ranging from 214 to 801 pounds. Due to the spotted infestations this year it is difficult to estimate actual losses caused by the BOLL WEEVIL for a portion of the State. However, this average increase might serve as a rough estimate of the damage caused by the boll weevil in the coastal section of the State. During 1956 no economic pests other than the BOLL WEEVIL caused any appreciable damage to the crop. This was the first year in many that no reports of BOLLWORM trouble were received at the Pee Dee Experiment Station. Infestations of APHID, THRIPS, and SPIDER MITES were extremely light in the Florence area; no reports of control measures for these pests. (Piedmont Region) - COTTON APHID (Aphis gossypii) occurred in a few scattered light infestations. Moderate infestations of THRIPS occurred on seedling cotton. FLEA BEETLES occurred in spotted and local infestations , moderate to heavy. Moderate to heavy infestations of BOLL WEEVIL proved hard to control in some localities. BOLLWORMS appeared earlier than usual with infestations scattered and moderate. SPIDER MITES built up early enough in some fields to cause loss in yield and were difficult to control. (Savannah River Valley) - BOLLWORM infestations very high early in the season. Some fields had as high as 35 percent infestation. Insecticides gave satisfactory control. BOLL WEEVIL population was about the same as last year. Early in the season when plants were 6-12 inches high some fields had as high as 3,000 weevils per acre. On untreated check plots at Edisto, average infestation for the year was 73 percent.

Forest, Ornamental and Shade Tree Insects: PINE BARK BEETLES - There appeared to be fewer reports of pine beetle damage during the season. OAK GALLS of several different types are being noticed more and more. One gall in particular on the water oak along the coast seems to be causing considerable damage. ELM LEAF BEETLE (Galerucella xanthomelaena) was very serious in some localities, especially on Chinese elm. A PINE SAWYER (Monochamus carolinensis) infested new homes and lumber piled in lumber yard. SPIDER MITES appeared to be more numerous than average on boxwood, camellia, and azalea. TEA SCALE appears to be somewhat reduced on camellia, but CAMELLIA SCALE (Lepidosaphes camelliae) and WAX SCALES are either more numerous or are being noticed more. BAGWORM (Thyridopteryx ephemeraeformis) damage to conifers and arborvitae was the most serious on record. LACE BUGS on azalea were serious in areas where plants were growing in full sunlight.

Insects Affecting Man and Animals and the Household: COMMON CATTLE GRUB (Hypoderma lineatum) remains the most important pest of cattle in the State. A survey conducted last winter revealed that 20-30 percent of hides from cattle slaughtered during the period of December through February were damaged by grub holes. HOUSE FLY (Musca domestica) was numerous in some areas, but in most cases effective controls greatly reduced populations. HORN FLY (Siphona irritans) occurred in relatively large numbers where adequate control measures are not employed. Several species of HORSE and DEER FLIES occurred frequently in the lower part of State. SALT-MARSH MOSQUITO (Aedes sollicitans) was abundant around Charlston and Beaufort. MOSQUITOES were quite numerous during the early spring in various locations in the Coastal Plain area. DOG FLEA (Ctenocephalides canis and CAT FLEA (C. felis) have developed resistance to chlordane and were abundant in many parts of State. BROWN DOG TICK (Rhipicephalus sanguineus) abundant in West Columbia during September. More cases of SCREW-WORMS were reported in the southeastern area of the State than during past three or four years. GERMAN COCKROACH (Blattella germanica) has become resistant to chlordane in Charleston and is quite numerous in this area. The BROWN-BANDED ROACH (Supella supellectilium) causing increasing concern in the Piedmont. CHICKEN BODY LOUSE (Menacanthus stramineus) is the most abundant species of lice found on chickens in the State. NORTHERN FOWL MITE (Bdellonyssus sylviarum) was more abundant than CHICKEN MITE (Dermanyssus gallinae). AN EYE GNAT (Hippelates sp.) was slow in emerging but became unusually annoying in most of the Coastal Plain area during late August and September. Complaints received of PUSS CATERPILLAR were fewer than usual. BEDBUGS increased in Coastal Plain counties, reflecting the cessation of spraying with DDT by the public health agencies. TERMITES have increased judging by the activity of termite exterminators GIANT HORNET (Vespa crabro germana) has spread south to Anderson and east to Winnsboro. Many complaints of ANT infestations were reported during the season.

Stored Products Insects: SAW-TOOTHED GRAIN BEETLE (Oryzaephilus surinamensis) has probably been the most important insect in stored small grain and occurred in certain varieties of corn this fall in fields. ANGOUMOIS GRAIN MOTH (Sitotroga cerealella) has been found in grain storage though probably no more numerous than usual. RICE WEEVIL (Sitophilus oryza) in corn and small grains is much less numerous than during the late 1940's.

SUMMARY OF INSECT CONDITIONS - 1956

MISSISSIPPI

Reported by R.E. Hutchins & J.M. Langston

Cereal and Forage Insects: ARMYWORM (Pseudaletia unpuncta) larvae were found in pastures in February and March, and in oat fields in April and May with up to 10 to 15 per square foot in some oat fields in the southern part of the Mississippi Delta.
CUTWORMS were reported numerous in March. A small population of BLACK CUTWORM (Agrotis ypsilon) and YELLOW-STRIPED ARMYWORM (Prodenia ornithogalli) occurred in pastures. VARIEGATED CUTWORM (Peridroma margaritosa) was feeding on vetch in April. CLOVER MITE (Bryobia praetiosa) caused damage to clover in various parts of the State during March, April and May. SUGARCANE BEETLE (Euetheola rugiceps) caused damage, in most cases to corn, during May and early June, and control measures were recommended to prevent the loss of stands. LESSER CORNSTALK BORER (Elasmopalpus lignosellus) reduced stands in some cornfields in early June, in sorghum fields in August, and in field peas in October. CORN EARWORM (Heliothis zea) infested soybeans the last of June. SOUTHERN CORNSTALK BORER (Diatraea crambidoides) infested corn in August and September; while SUGARCANE BORER (Diatraea saccharalis) infested sugarcane in George County in September. A GROUND PEARL (Margarodes sp.) was found on roots of lawn grass in May, July and August. FALL ARMYWORM (Laphygma frugiperda) was recorded as feeding on grass in pastures in August and October. EUROPEAN CORN BORER (Pyrausta nubilalis) was infesting corn plants from June 15 to the last of September, being found in all counties north of Highway 82 in Mississippi. SPOTTED ALFALFA APHID was found in Washington County June 22 and afterwards.

Fruit Insects: Colonies of EASTERN TENT CATERPILLAR (Malacosoma americanum) were found on peach and cherry trees in March and on apple trees in April. WOOLLY APPLE APHID (Eriosoma lanigerum) was infesting apple in June, and SAN JOSE SCALE (Aspidiotus perniciosus) was found on peach in October. WALNUT CATERPILLAR (Datana integerrima) damaged the leaves of pecan and walnut trees in June. PECAN BUD MOTH (Gretchena bolliana) destroyed buds on young pecan trees in May and July. FALL WEBWORM (Hyphantria cunea) infested pecan and forest trees from June till September. BLACK PECAN APHID (Melanocallis caryaefoliae) infested a few pecan trees in late summer. PECAN PHYLLOXERA (Phylloxera devastatrix) was received from Leake County in May. This is unusual for this insect to injure pecan trees in hilly sections. A SPIDER MITE (*Tetranychus* sp.) was found on pecan trees in August and October. A PHYLLOXERA (*Phylloxera castanea*) was first recorded from this State on chinquepin in August.

Truck Crop Insects: VEGETABLE WEEVIL (*Listroderes costirostris obliquus*) damaged turnips in March. MEXICAN BEAN BEETLE (*Epilachna varivestis*) damaged beans in May and June. COLORADO POTATO BEETLE (*Leptinotarsa decemlineata*) caused some damage to tomato plants in May. COWPEA CURCULIO (*Chalcodermus aeneus*) was reported damaging cowpeas in June and July. PICKLEWORM (*Diaphania nitidalis*) caused damage to cucumbers and melons in late July. A BLISTER BEETLE (*Epicauta* sp.) was feeding on sweetpotato leaves in August. TOMATO FRUITWORM (*Heliothis zea*) was causing damage to tomato fruits in June. LEAF-FOOTED BUG (*Leptoglossus phyllopus*) was reported causing damage to cowpeas and tomatoes in September. HARLEQUIN BUG (*Murgantia histrionica*) damaged crucifers in April and other PENTATOMIDS were reported damaging lima beans in August. FALSE CHINCH BUG (*Nysius* sp.) caused damage to turnips in July. STALK BORER (*Papaipema nebris*) was reported destroying tomato plants in May. TORTOISE BEETLES feeding on sweetpotatoes in May and June included *Chelymorpha cassidea*, *Metriona bicolor* and *Agroiconota bivittata*.

Cotton Insects: BLACK CUTWORM was reported in cotton fields in May. Adults of BOLL WEEVIL (*Anthonomus grandis*) were found in fields in Amite County, May 11. Infestations began in early June and by the last of the month were numerous as far north as Grenada County and spotted further north. General infestations of BOLLWORMS (*Heliothis* spp. et al.), were reported June 22, with light to medium infestations to July 13. In early June several infestations of STALK BORER were reported. THRIPS were reported June 1, and a few larvae of COTTON SQUARE BORER (*Strymon melinus*) were recorded August 3.

Forest, Ornamental and Shade Tree Insects: ERIOPHYID MITES were reported on live oak in June and September. AN APHID (*Cinara tujafilina*) on arborvitae was reported in February. COTTONWOOD LEAF BEETLE (*Chrysomela scripta*) was feeding on cottonwood and willow in March, April and May. FALL WEBWORM (*Hyphantria cunea*) infested shade and forest trees in May, June and July. BAGWORM (*Thyridopteryx ephemeraeformis*) damaged arborvitae and cedar in February, June, July and August. A SCALE (*Lecanium quercifex*) was found on oak in March, April and May. AZALEA BARK SCALE (*Eriococcus azaleae*) was reported on azaleas in May. MIMOSA WEBWORM (*Homadaula albizziae*) was infesting mimosa in May. CARPENTERWORM (*Prionoxystus robiniae*) infested willow in June. ELM LEAF BEETLE (*Galerucella xanthomelaena*) was infesting elm trees in Marshall County in June and September. A CATERPILLAR (*Datana major*) was feeding on azalea in September. SPINY OAKWORM (*Anisota stigma*) was found on oak in Jackson County, September 28.

Man, Animal and Household Insects: COMMON CATTLE GRUB (*Hypoderma lineatum*) at the rate of 11 grubs per animal was found in cattle examined in February. LONG-NOSED CATTLE LOUSE (*Linognathus vituli*) and A

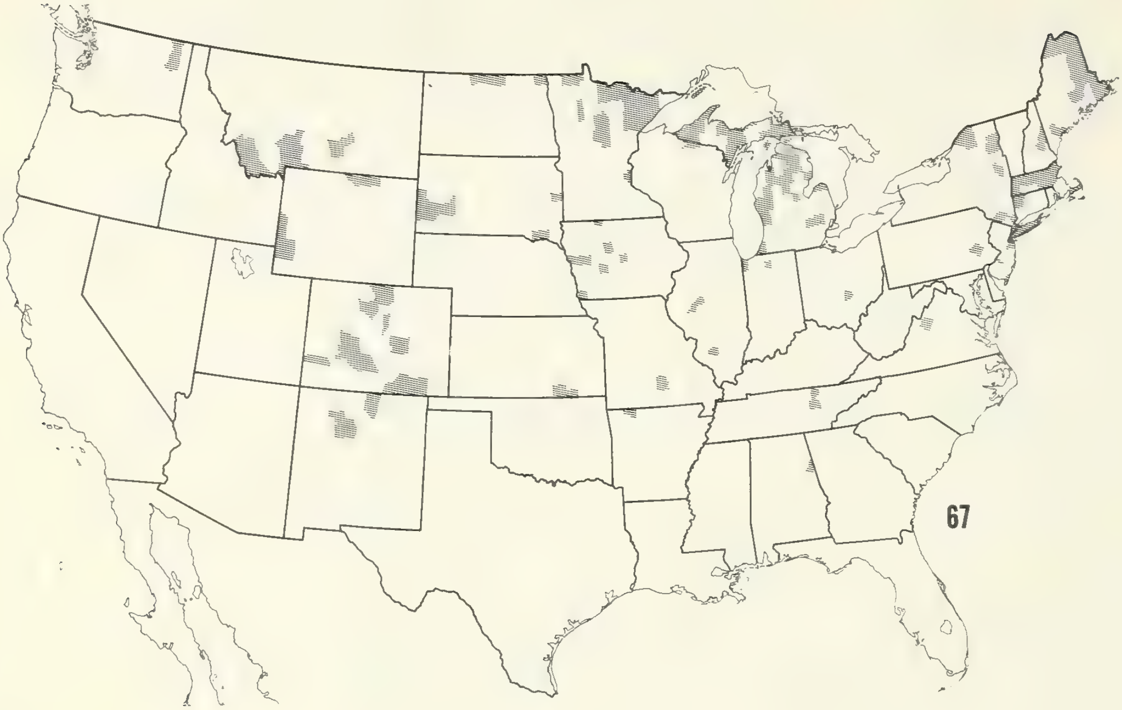
CATTLE LOUSE (Solenopotes capillatus) were found in small numbers on the same animals. LONE STAR TICK (Amblyomma americanum) and GULF COAST TICK (A. maculatum) were found on cattle in Hinds and Jasper Counties. A FUNGUS GNAT (Bradysia picea) appeared in numbers in several localities in September. A TERMITE (Reticulitermes sp.) winged forms appeared in Washington County on March 30. IMPORTED FIRE ANT (Solenopsis saevissima richteri) was found in Choctaw County in May.

Stored Grain Pests: INDIAN-MEAL MOTH (Plodia interpunctella) was found infesting red pepper in February. CIGARETTE BEETLE (Lasioderma serricorne) was reported infesting red pepper in June. POTATO TUBERWORM (Gnorismoschema operculella) infested stored potatoes in Pike County in August.

Beneficial Insects: LADY BEETLES were feeding on eggs and pupae of Chrysomela scripta in Washington County in May.

DISTRIBUTION OF RANGE GRASSHOPPERS

Melanoplus fasciatus (F. Walker)



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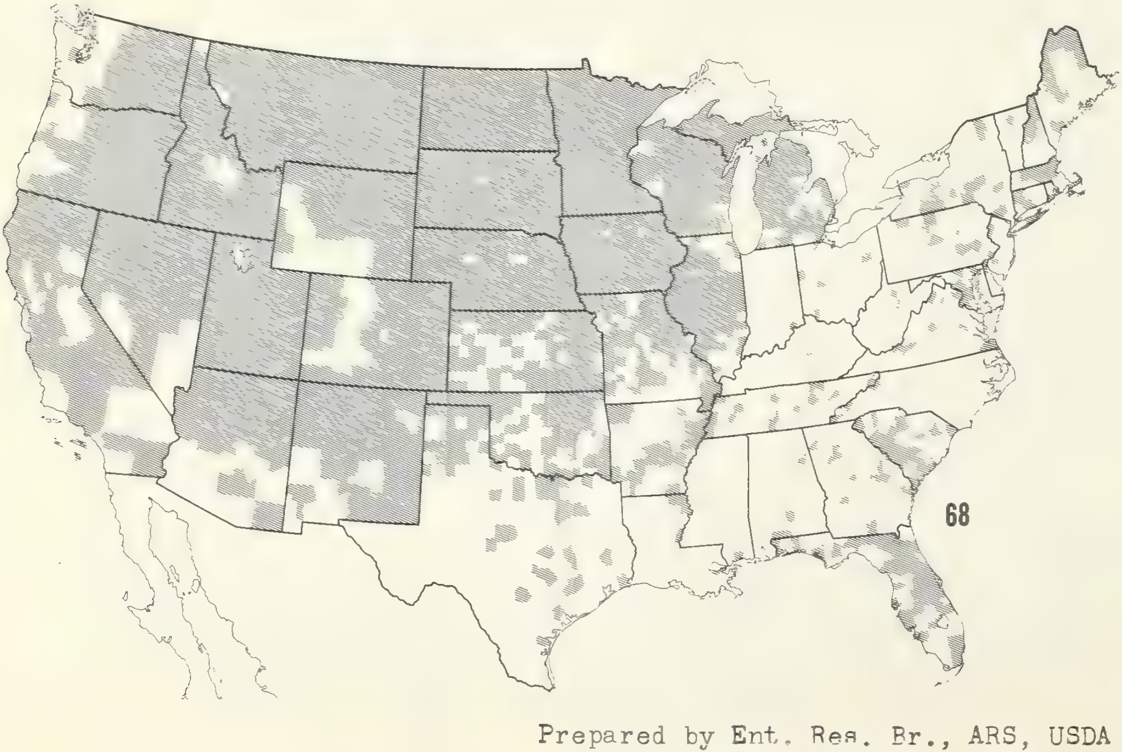
Melanoplus femur-rubrum (De Geer) Red-legged grasshopper



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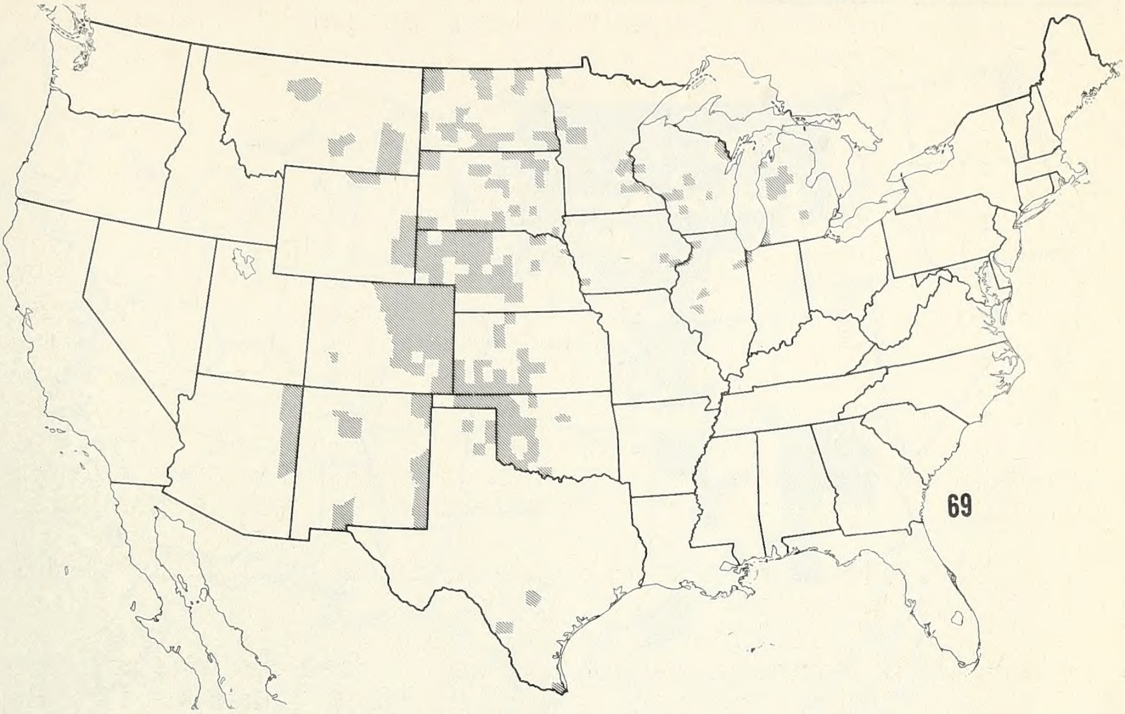
CEIR 6(50) December 14, 1956

DISTRIBUTION OF RANGE GRASSHOPPERS

Melanoplus flavidus Scudder



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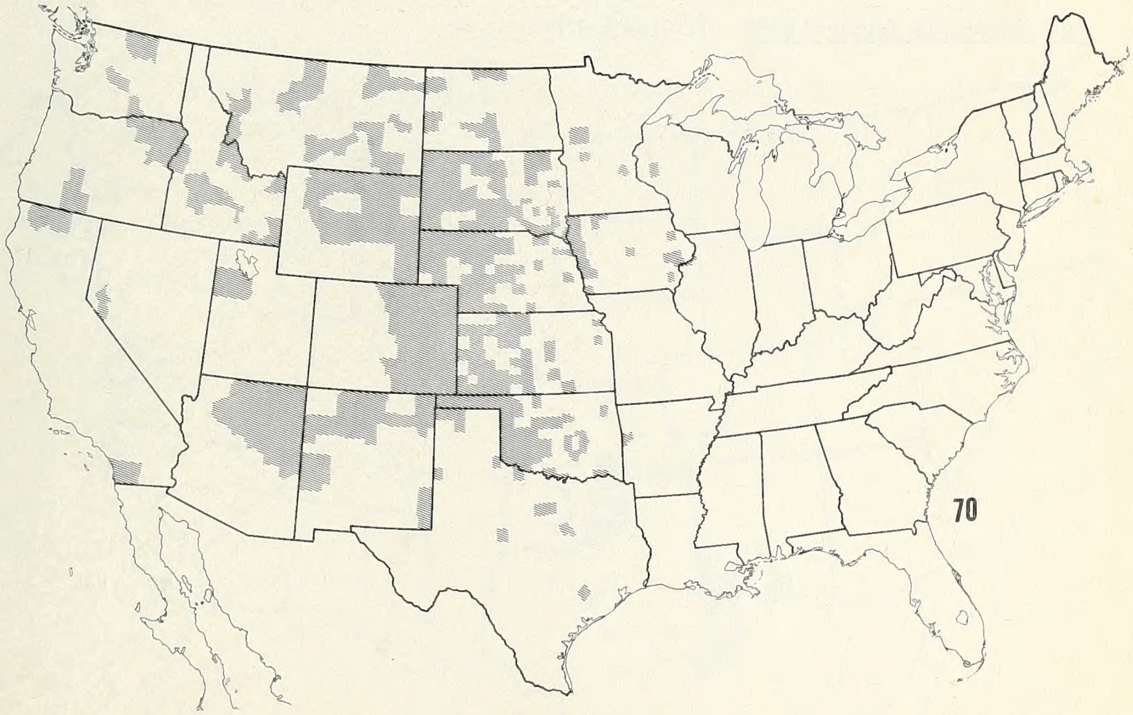
Melanoplus foedus Scudder



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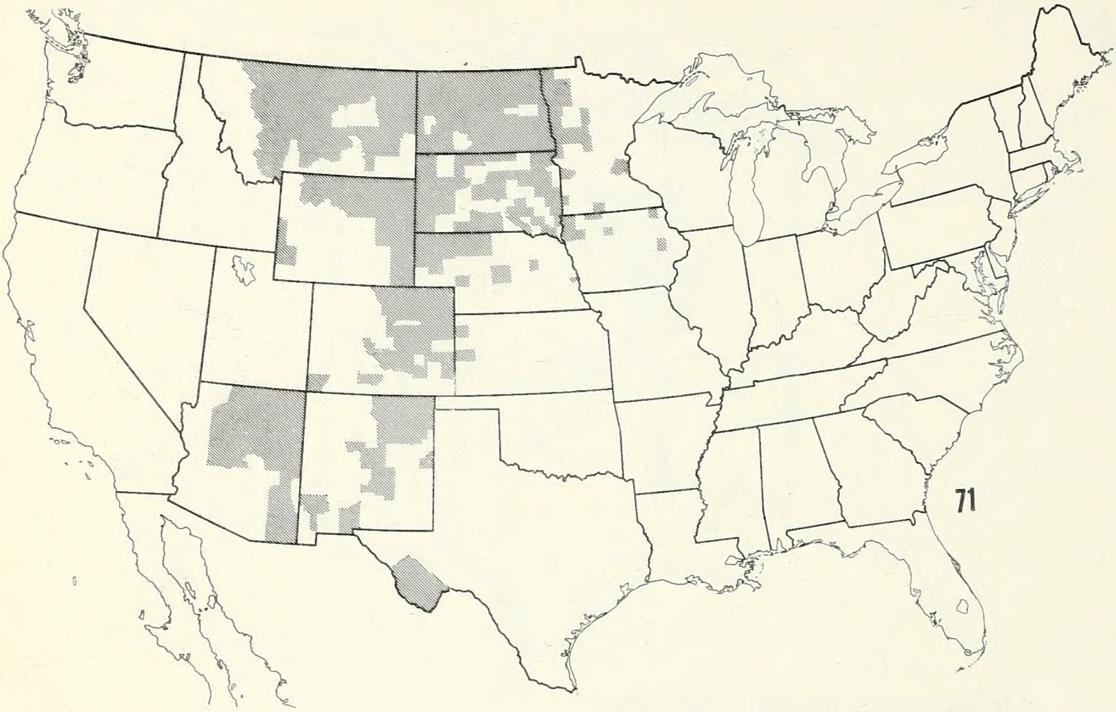
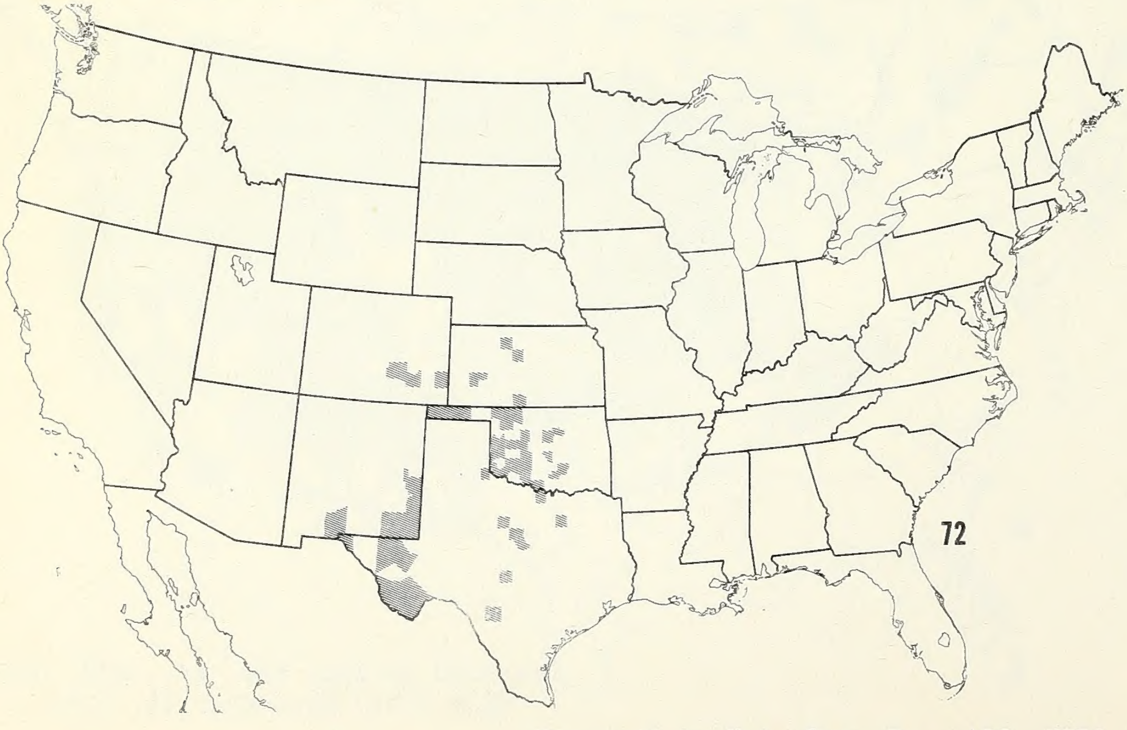
CEIR 6(50) Decemmber 14, 1956

DISTRIBUTION OF RANGE GRASSHOPPERS

Melanoplus gladstoni (Scudder)



Melanoplus glaucipes (Scudder)



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